

## NHANES 2001–2002 Data Documentation

Revised June 2005

### MEC/Household Examination

#### Oral Health (OHX\_B)

Survey Years Included in this File: 2001–2002

#### Component Description:

NHANES is critical for monitoring oral health status, risk indicators for disease, and access to preventive and treatment services. This component will address public health significance in areas of surveillance, prevention, treatment, dental care utilization, health policy, evaluation of Federal health programs, standardization of new methods, and oral health disparities.

Oral health data from NHANES will be used for:

- Assessing the prevalence of major oral health diseases and conditions including dental caries, periodontal disease, dental trauma, dry mouth, and dental fluorosis;
- Assessing prevention and treatment efforts including the prevalence of dental sealants;
- Evaluating specific public health programs/new policies and initiatives;
- Monitoring the oral health status of minority/underserved populations;
- Evaluating **Healthy People 2000 and 2010** objectives related to oral health;
- Supporting research activities as identified in the 2000 Surgeon General's Report on **Oral Health in the United States**.

#### Eligible Sample and Section-Specific Exclusions:

Participants aged 2 years and older who do not meet any of the exclusion criteria are eligible. A positive response to any of the following medical health-screening questions asked of participants aged 13 years or older will exclude them from the periodontal and root caries assessments. Participants aged 13–15 years must have a health proxy signed by a parent/guardian to participate in the oral health examination.

- Has a doctor or dentist ever told you that you must always take antibiotics (e.g. penicillin) before you get a dental check up or care?
- Do you have a heart problem (specifically, congenital heart murmurs, heart valve problems, congenital heart disease, or bacterial endocarditis)?
- Do you have rheumatic fever?
- Kidney disease requiring renal dialysis?
- Hemophilia?
- Pacemaker or automatic defibrillator or artificial material in your heart veins or arteries?

## Examination Protocol:

The following subcomponents are from the oral health examination component and home interview component with the age groups of interest in parentheses:

- Medical history screening (13 years and older);
- Dental sealant assessment (2–34 years of age);
- Tooth count (2 years and older);
- Coronal caries (2 years and older);
- Incisor traumatic injuries (10–29 years of age);
- Dental fluorosis assessment (6–49 years of age);
- Periodontal pockets, recession, loss of attachment, and bleeding (13 years and older);
- Root caries (18 years and older);
- Recommendations for dental care (2 years and older);
- Dry mouth and problems with chewing food (18 years and older);
- Dental health perception, dental visits and dental care utilization (2 years and older).

## Survey Staff and Protocol:

The oral health exam is performed by trained dentists who hold a state dental license in a U.S. jurisdiction. One of up to seven trained oral health recorders is paired with a dentist to form a dental examination team. Two teams function independently throughout the data collection period. All oral health exam data are collected in the mobile examination center. Oral health data obtained during the home interview are collected by trained interviewers. Interview and examination protocols are discussed in detail in the NHANES Oral Health Home Interview and Exam Training Manuals. These manuals are available at:

<http://www.cdc.gov/nchs/about/major/nhanes/currentnhanes.htm#Exam>.

## Quality Control during Data Collection:

The quality of data in this survey is controlled by (1) an intense training period for the dental teams with calibration of dental examiners prior to the beginning of the survey, (2) periodic monitoring and recalibration of dental examiners, and (3) periodic retraining of dental teams. The reference examiner will visit each team three times per year to observe field operations and to replicate 20–25 dental examinations during each visit. The purpose of these “expert replications” is to determine if the field examiners are maintaining the examination standards achieved during training and to measure the degree of deviation, if any, from those standards. If the inter-rater correlation is not within acceptable limits, retraining is conducted on site and future monitoring of the field examiner intensified. An annual retraining session for each dental examiner also is conducted by the reference examiner to reinforce existing protocols and to accommodate protocol updates as needed. Approximately 10% of examined participants are asked to return for a replicate exam. The purpose of these “repeat exams” is to monitor internal consistency within examiners regarding the data collection process.

Automated data collection procedures for the survey were introduced in NHANES 1999. In the mobile examination centers (MECs), data for the oral health component are recorded directly onto a computerized data collection form. The system is integrated centrally and it allows for ongoing monitoring of much of the data. As part of an on-going quality control practice, all data are reviewed systematically for logical inconsistencies and examiner error. Internal quality control data review indicates that data quality is acceptable.

### Analytic Notes:

The oral health exam data is released in the configuration of five “chapters.” These chapters are: Dentition, Periodontal-Upper, Periodontal-Lower, Referral, and the Home Interview chapter. The oral health chapters and subcomponents in parentheses are matched as follows:

- Dentition (Tooth count, coronal caries, root caries, dental sealants, incisor trauma, and dental fluorosis)
- Periodontal-Upper (Periodontal pockets, recession, loss of attachment, and bleeding for the maxillary sites assessed)
- Periodontal-Lower (Periodontal pockets, recession, loss of attachment, and bleeding for the mandibular sites assessed)
- Referral (Medical exclusions, care recommendations, and miscellaneous)
- Home Interview (Dry Mouth, dental visits, dental health perception)

A variety of oral health variables can be derived to assist analysts using the oral health exam data. Recommended derivations and a selection of sample code for dental caries status, dental fluorosis, dental sealants, and periodontal status is provided at the Oral Health Data Resource Center: <http://drc.nidcr.nih.gov/>

It is recommended that data users merge relevant 2001–2002 oral health data files with 1999–2000 oral health data files to ensure adequate sample size for analyses of many of the oral health outcome measures available in these files. The four-year sample weight (WTMEC4YR) should be used for the combined analyses of NHANES 1999–2000 and NHANES 2001–2002 examination data. Additional analytical details are available at: [http://www.cdc.gov/nchs/data/nhanes/nhanes\\_general\\_guidelines\\_june\\_04.pdf](http://www.cdc.gov/nchs/data/nhanes/nhanes_general_guidelines_june_04.pdf).

### Special Notes on Using the Dataset:

The analysis of NHANES 2001–2002 oral health data must be conducted with the key survey design and basic demographic variables. The NHANES 2001–2002 Household Questionnaire Data Files contain demographic data, health indicators, and other related information collected during household interviews. They also contain all survey-design variables and sample weights for these age groups. Other household questionnaire and oral questionnaire files may be linked to the oral health examination data file by using the unique survey participant identifier SEQN. The Oral Health Exam (OHX) and Oral Health Questionnaire (OHQ) data are publicly available at: <http://www.cdc.gov/nchs/about/major/nhanes/nhanes01-02.htm>

The oral health exam was modified in 2001 and again in 2002. In 2001, the gingival sweep used to assess for gingival bleeding was replaced with assessments for bleeding from probing.

Moreover, a third probing site (Disto-facial) was added, and the mid-facial probing site for molars was moved from the mid-point of the mesial root to the mid-facial furcation area. The age of eligibility for participation in the periodontal assessment was lowered to 13 years-of-age or older.

Beginning in 2002, there were three additions to the Dentition assessment: (1) residual dental root-tips were assessed for during Tooth Count; (2) the type of replacement for missing teeth (i.e. either removable or fixed) was ascertained in Coronal Caries; and (3) denture questions were added. These items will not be released because they were added in mid-data collection cycle. Consequently, derived variables were created for data collected during 2001–02 to make Year 4 variables comparable to Year 3 variables. This was completed for Tooth Count (OHD##TC), Coronal Tooth Condition (OHD##CTC), and Coronal Surface Condition (OHD##CSC).

Additionally, the 1999–2000 OH questions on Xerostomia (OHQ080, 090, 100, and 110) are now OHQ085, 095, 105, and 115, respectively, to reflect the age change from 40+ to 18+ years. This change was made in 2001.

In 2002, the medical exclusion question inquiring into a history of needing to take antibiotics prior to dental treatment was modified slightly. With the beginning of the current NHANES (1999), all dental examiners were instructed to probe if a positive response was given to this question. All probes were to include the word “always” needed to take antibiotics prior to dental treatment or dental care. Consequently, “always” was added to question OHQ130 to reflect accurately what respondents were reporting “yes” to. For this data release, a bridge variable (OHD130) was created for 2001 and 2002 data collection periods.

### **Acknowledgement:**

The 2001–2002 NHANES Oral Health Component is a collaborative effort between the National Institute of Dental and Craniofacial Research (NIDCR), the National Center for Chronic Disease Prevention and Health Promotion, Division of Oral Health (NCCDPHP/DOH), and the National Center for Health Statistics (NCHS).

### **References:**

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